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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/636,100	08/10/2000	Mary Dominique O'Neill	99W075	6344

7590

12/17/2002

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EXAMINER

SPEARS, ERIC J

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 12/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/636,100

Applicant(s)

O'NEILL ET AL.

Examiner

Eric J Spears

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Amendment filed 11/20/2002, which has been entered, contained persuasive arguments and the previous art rejection under 35 U.S.C. 103 was withdrawn. However, a new search revealed new art which has been applied as follows.

Election/Restrictions

Newly submitted claim 17 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: a device with an infrared detector is mutually exclusive from a device receiving a color image and would have a different classification therefrom.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 17 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Williamson et al. (5,930,433).

Regarding Claim 1, Williamson teaches a sensor system 10 for viewing light energy from a scene, comprising: a detector 25 which converts incident light energy into an electrical signal, the detector including an imaging detector array; an optical train that focuses the light energy of the scene 24; and an optical fiber bundle 18 having an input end that receives the scene from the optical train and an output end that directs the energy of the scene onto the detector array, the optical fiber bundle comprising a plurality of optical fibers wherein each fiber has an input shape and size at its input end and an output shape and size at its output end, the output shape and size being different from the input shape and size (See Figs 7, 11, and 16).

Regarding Claim 2, Williamson teaches a color filter 116 positioned between the scene and the detector.

Regarding Claim 4, Williamson teaches the fiber input size of each respective optical fiber is larger than the fiber output size of that optical fiber (See Figs 1, 7, 11, and 16).

Regarding Claim 5, Williamson teaches the device used in a scanner. It is well known in the art that scanners and copiers contain electronic devices for reading signals and image-processing electronics (Col. 1, lines 7-19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williamson et al. (5,930,433).

Regarding Claim 3, Williamson does not teach the output shape being a square. However, the exact output shape would have been an obvious design choice to one of ordinary skill in the art, in order to adapt the fiber optic system to a imaging array with square pixels.

Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williamson et al. (5,930,433) in view of Unuma et al. (5,943,463).

Regarding Claim 7, Williamson teaches a document scanning system comprising a sensor system 10 for viewing light energy from a scene, comprising: a detector 25 which converts incident light energy into an electrical signal, the detector including an imaging detector array; an optical train that focuses the light energy of the scene 24; and an optical fiber bundle 18 having an input end that receives the scene from the optical train and an output end that directs the energy of the scene onto the detector array, the optical fiber bundle comprising a plurality of optical fibers wherein each fiber has an input shape and size at its input end and an output shape and size at its output

end, the output shape and size being different from the input shape and size (See Figs 7, 11, and 16).

Further regarding Claim 7, Williamson does not teaches a separate waveguide bundle for each color. However, Unuma teaches a document scanning system comprising three rows of waveguides 14 with each row sending light through a different color filter 19. Therefore, it would have been obvious to one of ordinary skill in the art to provide separate waveguide bundles for each color filter, as the use of such color filters is well known in the art as shown by Unuma, in order to eliminate the need for the dichroic mirror and to equalize the light going to the different color detector regions by providing symmetric light paths.

Regarding Claim 8, the modified device of Williamson would have such sensitivities as the un modified device of Williamson detected the different colors of light.

Regarding Claim 9, the modified device of Williamson teaches the first-color region and the second-color region are in the same plane (See Williamson Figs 22A, 22B; See Unuma Fig. 18).

Regarding Claims 10 and 11, Williamson does not teach the output shape being a square. However, the exact output shape would have been an obvious design choice to one of ordinary skill in the art, in order to adapt the fiber optic system to a imaging array with square pixels.

Regarding Claims 12 and 13, the modified device of Williamson teaches the fiber input size of each respective optical fiber is larger than the fiber output size of that optical fiber (See Williamson Figs 1, 7, 11, and 16).

Regarding Claim 14, the modified device of Williamson teaches the device used in a scanner. It is well known in the art that scanners and copiers contain electronic devices for reading signals and image-processing electronics (Col. 1, lines 7-19).

Response to Arguments

Applicant's arguments with respect to claims 1-5, and 7-14 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

The indicated allowability of claims 7-14 is withdrawn in view of the newly discovered reference(s) to Williamson et al. (5,930,433) and Unuma et al. (5,943,463). Rejections based on the newly cited reference(s) follow.

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 15 and 16 are still considered allowable, however, for reasons other than those given in a previous office action.

Regarding Claim 15, the prior art of record fails to teach or reasonably suggest a sensor system for viewing light energy from a scene comprising, in addition the other

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related features of the claim, nonlinearly mapping light energy onto a detector by way of the optical fiber bundle, as recited in Claim 15, lines 10-13

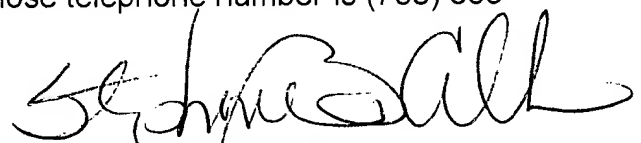
Regarding Claim 16, the prior art of record fails to teach or reasonably suggest a sensor system for viewing light energy from a scene comprising, in addition the other related features of the claim, nonlinearly mapping light energy onto a detector by way of the optical fiber bundle, as recited in Claim 16, lines 9-1- and 23-32.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Spears whose telephone number is (703) 306-0033. The examiner can normally be reached on Monday-Friday from 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



STEPHONE ALLEN
PRIMARY EXAMINER

EJS
12/02/02